REMARKS

This application has been reviewed in light of the Office Action dated December 22, 2003. Claims 1-18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, and 115 are presented for examination, of which Claims 1, 9, 17, 18, 20, 82, 84, 114, and 115 are in independent form. Claims 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, and 113 have been canceled, without prejudice or disclaimer of subject matter, and will not be mentioned further. Claims 1-6, 9-14, 17, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 114, and 115 have been amended to define still more clearly what Applicant regard as his invention. Favorable reconsideration is requested.

The Examiner objected to the specification for the reason noted on page 2 of the Office Action.

Applicant has amended the specification to overcome the noted objection. Accordingly, Applicant submits that the objection to the specification has been remedied, and its withdrawal is respectfully requested.

Claims 4, 30, 31, 32, 33, 94, 95, 96, and 97 were rejected under 35 U.S.C. § 112, second paragraph, indefinite.

First, cancellation of Claims 31, 33, 95, and 97 renders the rejection of those claims moot.

The remaining claims have been carefully reviewed and amended as deemed necessary to ensure that they conform fully to the requirements of Section 112, second paragraph, with special attention to the points raised in paragraph 3 of the Office Action. Claim 4 has been amended such that if the length of a certain scene is less than a specified length, frame information in a subsequent frame are used and the two scenes are merged into one scene whose duration is equal to the specified duration. Furthermore, Claim 5 has been amended such that if the length of a certain scene is less than the specified length, only frame information in the scene are merged with the scene-change frame of the scene. Claims 12, 13, 30, 32, 34, 36, 94, 96, 98, and 100 have been amended similarly to either Claim 4 or 5, respectively. It is believed that the rejection under Section 112, second paragraph, has been obviated, and its withdrawal is therefore respectfully requested.

Claims 1, 9, and 17 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,204,706 (*Saito*), Claims 2, 3, 10, and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Saito* in view of U.S. Patent No. 4,319,286 (*Hanpachern*), Claims 4, 5, 12, and 13 were rejected under Section 103(a) as being unpatentable over *Saito* in view of *Hanpachern* and further in view of U.S. Patent No. 5,758,181 (*Becker*), Claims 6-8 and 14-16 were rejected under Section 103(a) as being unpatentable over *Saito* in view of *Hanpachern, Becker,* and in further view of U.S. Patent No. 5,537,530 (*Edgar et al.*), Claims 18, 20, 50, 52, 54, 82, 84, 114, and 115 were rejected under Section 103(a) as being unpatentable over *Saito* in view of *Edgar et al.*, Claims 22, 24, 26, 28, 56, 58, 60, 86, 88, 90, and 92 were rejected under Section 103(a) as being unpatentable over *Saito* in view of *Edgar et al.* and further in view of *Hanpachern*, and Claims 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 94, 96,

- 29 -

98, 100, 102, 104, 106, 108, and 110 were rejected under Section 103(a) as being unpatentable over *Saito* in view of *Edgar et al., Hanpachern,* and *Becker.*

As shown above, Applicant has amended independent Claims 1, 9, 17, 18, 20, 82, 84, 114, and 115 in terms that more clearly define the present invention. Applicant submits that these amended independent claims, together with the remaining claims dependent thereon, are patentably distinct from the cited prior art for at least the following reasons.

Saito relates to a moving picture managing device. The *Saito* device automatically segments video data into scene data and stores the scene data in a hierarchical structure. Each scene has a picture that is able to represent the scene itself. The *Saito* device also enables the editing of the scenes or cuts.

Hanpachern relates to a device that can be connected to a video tape recorder which responds to the television signals being recorded so as to interrupt the recording process for the duration of each commercial so as to enable a television program to be recorded commercial free. The *Hanpachern* device is able to detect a missing frame of the video information based on a condition of a sync signal and interrupt recording of the video information for a duration that is equivalent to the customary length of a commercial.

Edgar et al. relates to video editing, and in particular to systems and methods for identifying scene change boundaries in video segments and ordering sequences of video segments in relation thereto. The *Edger et al.* system can automatically detect video segments based on a degree of similarity from among frames and determine which individual frame best represents each scene based on the smallest difference of

- 30 -

change between a selected image and every other image in a specific scene. In the *Edgar et al.* system, video is edited by selecting a representative image.

Becker relates to a method and system for presenting segmented data. The *Becker* system can provide an accelerated presentation of segmented data to a user. A data set, including a plurality of data segments each delimited by a pair of segment boundaries, are provided. Adjacent to each of the segment boundaries is a boundary group. A presentation speed of data, not within the boundary group, is accelerated gradually to a maximum speed, while a presentation speed of data within the boundary group is set at a lower rate than the accelerated speed.

The aspect of the present invention set forth in Claim 1 is an image processing system. The system includes calculating means, designating means, determining means, and dynamic image means. The calculating means calculate a degree of similarity from among a plurality of image frames of dynamic image data. The designating means designate a length of a digest dynamic image. The determining means determine scene-change frames based on the degree of similarity calculated by the calculating means, and the dynamic image means performs automatic editing and preparation of the digest dynamic image of the dynamic image data of the designated length by merging frames for a specified duration of each scene delimited by a scene change.

Among other important features of Claim 1 are designating a length of a digest dynamic image and performing automatic editing and preparation of the digest dynamic image of the dynamic image data of the designated length by merging frames for a specified duration of each scene delimited by a scene change.

As discussed above, the *Saito* device automatically segments video data into scene data and stores the scene data in a hierarchical structure. However, nothing has been found in *Saito* that would teach or suggest designating a length of a digest dynamic image and performing automatic editing and preparation of the digest dynamic image of the dynamic image data of the designated length by merging frames for a specified duration of each scene delimited by a scene change, as recited in Claim 1.

Accordingly, Applicant submits that Claim 1 is clearly patentable over *Saito*.

Neither *Hanpachern*, *Edgar et al.*, nor *Becker*, whether considered separately or in any proper combination, are seen to remedy the deficiencies of *Saito*.

Independent Claims 9 and 17 are method and recording medium claims respectively corresponding to apparatus Claim 1, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 1.

The aspect of the present invention set forth in Claim 18 is an image processing system. The system includes calculating means, determining means, and dynamic image means. The calculating means calculates a degree of similarity from among a plurality of image frames of dynamic image data. The determining means determine scene-change frames based on the degree of similarity calculated by the calculating means. The dynamic image means performs automatic editing and preparation of a digest dynamic image of the dynamic image data by merging a specified duration of frames having a low degree of similarity with an immediately preceding frame or some preceding frames on receipt of instructions to prepare a dynamic digest.

Among other important features of Claim 18 is performing automatic editing and preparation of a digest dynamic image of the dynamic image data by merging a specified duration of frames having a low degree of similarity with an immediately preceding frame or some preceding frames on receipt of instructions to prepare a dynamic digest.

Nothing has been found *Saito* and *Edgar et al.* that would teach or suggest performing automatic editing and preparation of a digest dynamic image of the dynamic image data by merging a specified duration of frames having a low degree of similarity with an immediately preceding frame or some preceding frames on receipt of instructions to prepare a dynamic digest, as recited in Claim 18.

Accordingly, Applicant submits that Claim 18 is clearly patentable over *Saito* and *Edgar et al.*, whether considered separately or in any proper combination.

Further, neither *Hanpachern* and *Becker* are seen to remedy the deficiencies of *Saito* and *Edgar et al.*

Independent Claims 82 and 114 are method and recording medium claims respectively corresponding to apparatus Claim 18, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 18.

The aspect of the present invention set forth in Claim 20 is an image processing system. The system includes calculating means, determining means, and dynamic image means. The calculating means calculate a degree of similarity from among a plurality of image frames of dynamic image data. The determining means determine scene-change frames based on the degree of similarity calculated by the calculating means. The dynamic image means perform automatic editing and preparation of a digest dynamic

image of the dynamic image data by merging a specified duration of frames having a high degree of similarity with an immediately preceding frame or some preceding frames on receipt of instructions to prepare a quiet digest.

Among other important features of Claim 20 is performing automatic editing and preparation of a digest dynamic image of the dynamic image data by merging a specified duration of frames having a high degree of similarity with an immediately preceding frame or some preceding frames on receipt of instructions to prepare a quiet digest.

Nothing has been found *Saito* and *Edgar et al.* that would teach or suggest performing automatic editing and preparation of a digest dynamic image of the dynamic image data by merging a specified duration of frames having a high degree of similarity with an immediately preceding frame or some preceding frames <u>on receipt of instructions to prepare a quiet digest</u>, as recited in Claim 20.

Accordingly, Applicant submits that Claim 20 is clearly patentable over *Saito* and *Edgar et al.*, whether considered separately or in any proper combination.

Further, neither *Hanpachern* and *Becker* are seen to remedy the deficiencies of *Saito* and *Edgar et al.*

Independent Claims 84 and 115 are method and recording medium claims respectively corresponding to apparatus Claim 20, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 20.

A review of the other art of record has failed to reveal anything that, in Applicant' opinion, would remedy the deficiencies of the art discussed above, as applied

against the independent claims herein. Therefore, those claims are respectfully submitted to be patentable over the art of record.

The other rejected claims in this application depend from one or another of the independent claims discussed above, and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,
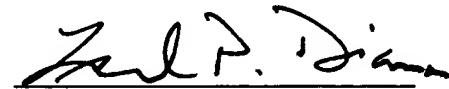
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